

**IFWO** 

RAW SEQUENCE LISTING

DATE: 08/06/2004

PATENT APPLICATION: US/10/804,219

TIME: 10:56:27

Input Set : A:\58187109.app

Output Set: N:\CRF4\08062004\J804219.raw

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3 <110> APPLICANT: CHAUDHARY, SARITA
         VAN ROOIJEN, GIJS
         MOLONEY, MAURICE
 5
         SINGH, SURINDER
 8 <120> TITLE OF INVENTION: FLAX SEED SPECIFIC PROMOTERS
10 <130> FILE REFERENCE: 058187-0109
12 <140> CURRENT APPLICATION NUMBER: 10/804,219
13 <141> CURRENT FILING DATE: 2004-03-19
15 <150> PRIOR APPLICATION NUMBER: 09/645,593
16 <151> PRIOR FILING DATE: 2000-08-25
18 <150> PRIOR APPLICATION NUMBER: 60/151,044
19 <151> PRIOR FILING DATE: 1999-08-27
21 <150> PRIOR APPLICATION NUMBER: 60/161,722
22 <151> PRIOR FILING DATE: 1999-10-27
24 <160> NUMBER OF SEO ID NOS: 25
26 <170> SOFTWARE: PatentIn Ver. 3.2
28 <210> SEO ID NO: 1
29 <211> LENGTH: 4305
30 <212> TYPE: DNA
31 <213> ORGANISM: Linum usitatissimum
33 <220> FEATURE:
34 <221> NAME/KEY: CDS
35 <222> LOCATION: (2024)..(2350)
37 <220> FEATURE:
38 <221> NAME/KEY: CDS
39 <222> LOCATION: (2727)..(2867)
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46 agactagcat tccgttccca cacagagttg ggaatttgta ccaaatccaa cacttgtcgt 180
48 attggagcga cgatagggac gcggaaaaac acatccgttg gatcagggag ttgtacgatg 240
50 atotogagoo ttatgtgtog aagaatooga ggtatgotta ogtgaactao agggatotog 300
52 acatcgggat gaatggagga ggtgaagggg atgagaaggg tacttatggt gaggctaagg 360
54 tgtgggggga gaagtacttt ggggtcaact ttgatcggtt ggttcgggtg aagacgattg 420
56 ttgatcccaa taatgtgttt cgaaacgagc agágcattcc ctcaattcca actcggttat 480
58 aaggatcaat gatcaatgag aattttcctt tccaatgtga ttacaagttc tattgggtca 540
60 gettteteaa etgeteetat teatttagat taatteataa caactattaa tttaceagee 600
62 ttttatccgg cccgttggcc gatttatttt cttaagtttt agatgaaatg aaaccgattt 660
64 agtttttatt gagatgagat taatettaat ttgettgaaa tttaeteaeg gttgatgtga 720
66 tatttggaat taactaaaat gataaatatc ggataaaaat aaaaatattt aaaataaata 780
68 acataaacat aagaacaata aaataaataa atttaatttt aatttatttc cttqttttct 840
70 ttetgtatea tacatetett etettaette ttaaaggett tteaattate aettaattaa 900
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72 atacaataga taaatcgtta attctataac attaacctat acacttgcac ggtgaacaat 960

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Input Set : A:\58187109.app

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76 taaagtttat geggteagtt tetgeaaget eegageteet tgteategtt agtttetgeg 1080
78 gtctcaaggt ataacgactc ggagcgacga gccctttgct tccaatggac gggttgcatt 1140
80 tetgeegteg ttgagetega ttggegtgte atgetggagt cagagtteet acaaaaaaac 1200
82 cctaaactag agggtgatta gggtgaaatt agggtgttgg cctgggttcc attgtccaaa 1260
84 gttttagtca acttaaaaac agacttaaat tttatgcttc aaaatagttt atctgttatt 1320
86 atattagegt gtaattagte ttgacaatgg ggeeggaegg gtaeggatte gggaeecega 1380
88 tccccgccca tagtgtaatg gctcaactgc caagtcagca ttggaccgaa attattggac 1440
90 acgaagtact aatgtgaaaa actttacatt tgttattttc tactttaata ctatgctatt 1500
92 ttcaaaattt gaactttaat actatgtttt tatatagttt agtatatctt aatttttatg 1560
94 caaattcatc taattgtatt aaactatttt cgatccgtag ctaattattt cgaaggcaag 1620
96 tcaaagtgtt attgtggact atgtgagcta atattgaacc tttatctctc ccaaccactc 1680
98 aagttaattg aaccaaactc gatcggttgg gtttcgagct atttcgagcc attgttgtta 1740
100 tatgcacgtg agatatcaag attgacccga acactttatt atgataatgt agaaaaagaa 1800
102 aacatattet aagactacat geatgeaaag tgeaaceeet geatggaaag etgeteaaca 1860
104 cgtggcatag actcccgcca cgtgtccatt ccacctcatc acctcaccc caccgttcac 1920
106 ctcttattat atcacaacaa tcaatcaatc ctactcctcc atactcgaac aaatccgacc 1980
108 aacttatacc aatattccca aacttgatta atttctcagc aat atg gat cag acg
109
                                                    Met Asp Gln Thr
110
112 cac cag aca tac gcc gga acc acg cag aac ccg agc tat ggc ggc ggg
                                                                       2083
113 His Gln Thr Tyr Ala Gly Thr Thr Gln Asn Pro Ser Tyr Gly Gly
114
116 ggc aca atg tac cag cag cag ccg agg tct tac cag gcg gtg aag
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117 Gly Thr Met Tyr Gln Gln Gln Pro Arg Ser Tyr Gln Ala Val Lys
                                         30
120 gcg gcc act gca gcc acc gcg ggt gga tcc ctc atc gtt ctg tcc ggt
                                                                       2179
121 Ala Ala Thr Ala Ala Thr Ala Gly Gly Ser Leu Ile Val Leu Ser Gly
122
                 40
124 ctc atc ctt acg gcc acc gtc att tca ctc atc ata gcc acc cct ctc
                                                                       2227
125 Leu Ile Leu Thr Ala Thr Val Ile Ser Leu Ile Ile Ala Thr Pro Leu
             55
                                 60
128 ctt gtc atc ttc agc cct gtt ctt gtc ccg gct ctc atc acc gtc ggg
                                                                       2275
129 Leu Val Ile Phe Ser Pro Val Leu Val Pro Ala Leu Ile Thr Val Gly
                             75
132 ctc ttg atc acc ggg ttt ctt get tcc ggt ggg ttc gga gtc gcc gcc
                                                                       2323
133 Leu Leu Ile Thr Gly Phe Leu Ala Ser Gly Gly Phe Gly Val Ala Ala
134
                                                                 100
136 gtc acc gtc ttg tcc tgg atc tat agg tatgtataag ctttggactt
                                                                       2370
137 Val Thr Val Leu Ser Trp Ile Tyr Arg
140 tagtattgtt ataaaataca taagctgatt tatgaacatg gatctcccaa caagagttat 2430
142 ttaaatgcat teteggtetg actegategg ttgggttttg agetactegg teacaatggt 2490
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148 cccaacaact cagaactcga gtcagtgggt tgtgacggtt ctctataaac atttcgaaaa 2670
150 tctttgttca atgaacgtag aaatgaccat gcttgatgat tgtgggtctt ataagg tac 2729
151
                                                                  Tyr
152
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TIME: 10:56:27

Input Set : A:\58187109.app

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154 gtg acc ggc ggg cac ccg gcg gga ggg gat tcg ctg gac cag gct agg
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155 Val Thr Gly Gly His Pro Ala Gly Gly Asp Ser Leu Asp Gln Ala Arg
                    115
                                        120
158 tcg aag ctg gcc gga aag gcc agg gag gtg aag gac agg gcg tcg gag
                                                                       2825
159 Ser Lys Leu Ala Gly Lys Ala Arg Glu Val Lys Asp Arg Ala Ser Glu
                130
                                    135
162 ttc gca cag cag cat gtc aca ggt ggt caa cag acc tct taa
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163 Phe Ala Gln Gln His Val Thr Gly Gly Gln Gln Thr Ser
                                150
166 agagagteet etagttaaat tggtettegt ttetgttteg tggeggettg taaactetet 2927
168 tttaagtgtg ctgttttcct tttgtctcgt gtgttgtaag tgaaaqtqta atcqaaqttc 2987
170 caagttggag atgtttgtaa cgatgatgtt ttctaataat cagagatatt aaaagggttg 3047
172 ctaatttagt attgcgtctg atctcggacc aaactcgcaa gtaaaattgc agaggatgag 3107
174 ttgtacagaa caagcgtgca ttgttctgga agttcatctc cttggagccq accttqttqc 3167
176 ttgcagtttc gccaagtcca ctagacaatg ttacgagtta agcctctgtc aaacagatcq 3227
178 ctctagcgtc ccagaaaaca ccagattttt cgaaaaccat cggggatcaa ttttcgattc 3287
180 aatteegate ttggaagtae ttgaacagaa geatgatget aaaagataat agaaaatega 3347
182 agcctagaaa agttgtacag aaagcaacaa gtcaaaaata tagatcaact tcaaaqqttc 3407
184 aaattacatc ttacagaccc caaaaaatga cagttaacag aagtcgacta aacagaaacc 3467
186 agccagette acetggaatg aaggagettt gateaateea teetagette atteeeettt 3527
188 gaaattgcag acagagetet cateetgeta aagetggtgg ettattetta accetgeaat 3587
190 caataagcat gaactaacat tggacacctt catcggcgga ttgctcgaaa atcagtgagc 3647
192 gagggattta cetgtgtgtg tagtaacete teteettgta cataaaatet ggaaatteeg 3707
194 gcatcaacta etgecaectt tetgettaag gtgattttat caccaagget gagegtgatt 3767
196 ccttgcgtct tgctccgaat cctgatgtat ccactgagct ttccatctcc ttccttctcc 3827
198 aggettatgt teaceaatge gteetegeeg aacacactet tggegtacaa gttegeagee 3887
200 aggaatccac actctccatc aagtgcagac ctgcaaaccc caaataagaa cacaaactcc 3947
202 aaagtcaacg atcaattctc cgccttttat gaagaaaagg aaacttctgg gtacttacqg 4007
204 tgccgtcaga cacttcatat ttgtagactt gatgatatgg tccaggaatt ccttctcgtt 4067
206 ctgaattgtt gtgttaacag caacctgaca gacagaaaga tatcgcaaat ttaagatact 4127
208 gggatgacta ggcacagaga aatgaaatct aattctagaa gtaaaacctt attttcccat 4187
210 tcaaattctg cccacatagt ccggaacgca gcatccgagc aagaagcagg agagatgtaa 4247
212 tecatgatat egatgtggat ategttgagg acgacaactq aacqttecat cacattqq
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216 <211> LENGTH: 109
217 <212> TYPE: PRT
218 <213> ORGANISM: Linum usitatissimum
220 <400> SEQUENCE: 2
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222
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224 Tyr Gly Gly Gly Gly Thr Met Tyr Gln Gln Gln Pro Arg Ser Tyr
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227 Gln Ala Val Lys Ala Ala Thr Ala Ala Thr Ala Gly Gly Ser Leu Ile
228
             35
230 Val Leu Ser Gly Leu Ile Leu Thr Ala Thr Val Ile Ser Leu Ile Ile
233 Ala Thr Pro Leu Leu Val Ile Phe Ser Pro Val Leu Val Pro Ala Leu
                         70
236 Ile Thr Val Gly Leu Leu Ile Thr Gly Phe Leu Ala Ser Gly Gly Phe
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244 <211> LENGTH: 46
245 <212> TYPE: PRT
246 <213> ORGANISM: Linum usitatissimum
248 <400> SEQUENCE: 3
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255 Glu Phe Ala Gln Gln His Val Thr Gly Gly Gln Gln Thr Ser
256
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261 <211> LENGTH: 3501
262 <212> TYPE: DNA
263 <213> ORGANISM: Linum usitatissimum
265 <220> FEATURE:
266 <221> NAME/KEY: CDS
267 <222> LOCATION: (1853)..(2395)
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274 gatgattagg tgettteagt teggtetgte aggaaatega gatgtteaet tatttaeatt 180
276 gtcgattcat ctcccaattg tcctggttcc tttactgtcc gacgcttttt tgaatcccag 240
278 ttaatteeca teaagtette etteagetge gtageactge tageteeaac atggagegtg 300
280 gagtetacte gtteatgggg categeaaag gtttgeette atgttetget accaqeeage 360
282 gcccaccgcc tcttggttgt gtggacaatt gcggtgaagc gcgcaagttg acatcccata 420
284 gtctcgacac ttcaccatat ggatgtttaa aacgtatatc acgagtgcga tctacatgtc 480
286 ccatcacacc acatataaag caatagtttg ggagcttttc atatttgaaa cgggcattga 540
288 egacttgece tetegataat ttaatetttt tttetettea getgattgtg tgeateeatt 600
290 cgggctcaga agcacatcaa agggatctct ccatcgtagt attgggtcgt gtcgtatgat 660
292 acgaagcagt cgatgaagtt teetaatgtg cgagetacag geteegcaaa gaaccegega 720
294 ggtagatcgt atgctagtac ccaaaaatca gtttgtcgta gcggaatcaa cactagagac 780
296 teaccetaat geateteatg tgtgatgaac agtttateat ttgtgagtet aggggteatt 840
298 gtcgatgacc caatgcacat tgagcttatg atagaatttg aataggaagc gttttccacc 900
300 cagatcacga atagctaccc ctttttcggg cgccaaattt ccggcatcct atcttccacc 960
302 acaacttaaa gatgcgatcg gtaaggaact caccgaccac acacatcgaa taatcttcgg 1020
304 tgaccggttc ctgttgatca agtccctcaa tttcctcaac ctaqtcttca atcqccqcta 1080
306 gcgttatccc ccgcatatgg actttcatag cgcggagcgt agccggagac gacgagcaag 1140
308 aaggatgage ggeggeagat tgeggetaaa gaaaegaget teetgeettg etetatggag 1200 -
310 gcagatttct gagttgatgg tgatggattt gtgatgtgga cacttttaat ttaagttgat 1260
312 ttttttagcac ttcattcacg taattaaata aataatttcc agtattttat atttatttcc 1320
314 ttacgttatc taattttttg aaagattaaa actttgatat aggcaagatc atgacacgtc 1380
316 gaagttaagt gaatgagact ootaacaagg taataacaaa goagttoata aaccgaatga 1440
318 ccttgatctt tactaagctt gagatcattg aacatataat taaatacgtt aatgaaagat 1500
320 aagaacttta atataaaaat cattcaaaac qaqaaactga taacaaaaac aaagcaaacg 1560
322 gccaacaaaa taatagacgg tggaaggatg atgcagagcc atccaccctt ttttcccagt 1620
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326	caga	agcco	ctt a	actc	gcca	gg t	cacc	gcac	c ac	acgtgttact tcacaaacac			cttgaaactt gttagtcatg ctatcacttc tcctcccttt tcataaaaaa accacctctt				
331 332		gcatttetee caagtteaaa ttagtteaca getaageaag aacteaacaa ca atg geg Met Ala 1 gat egt aca aca cag eea cae caa gte cag gte cae ace cag cae cae														1858	
								caa Gln 10									1906
								ggc Gly									1954
343								tca Ser									2002
								ctc Leu									2050
								gly aaa									2098
								agc Ser 90									2146
								gcg Ala									2194
363								tcg Ser									2242
								Gly 999			gat					gcg	2290
370 371 372	aag Lys	agg Arg	cgc Arg	atg Met 150	cag Gln	gat Asp	gct Ala	gct Ala	999 Gly 155	tat Tyr	atg Met	ggg Gly	cag Gln	aag Lys 160	acc Thr	aag Lys	2338
								agg Arg 170	aag					aaa			2386
378	gac Asp	gac aaa taa ggtgataata aggggttttg ggttcgtgtg taaactggta Asp Lys 180														2435	
384	ctct	aaatggaaat tetgggtttt aetgtaettt tgeatgtagt ggaatgaatg agttettgtt etetttgte ttettaateat aaagtaagaa geageattte atgttetggt tgaatattgt														2555	
388 390	gtaa ttgg	caagaatteg caacaaattt agetaaacea gtteaatett aceggttaga egaetteeea gtaagaaaca tteeaggtee ateeeggtat aagagtetgg aettetgaaa eetttagaee ttggatttgg aaaaaaagatg aaacetttag aataaattae aaegatggea gattgtacaa													2675 2735		
392 394	ctag	aactggagtc gagatcatgt aaattagccc ataactaaga accggcgatg acaacaatta ctaggaatat ggttgttggg ctggtcggcg gctagcggtg atgatttgga agaatcgggg												2795 2855			

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/804,219

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## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:8; N Pos. 4396,4407,4415,4423,4445,4475,4497,4515,4545,4548,4550,4552
Seq#:8; N Pos. 4556,4567,4580,4587,4591,4593,4594,4605,4613,4616,4620,4622
Seq#:8; N Pos. 4626,4635,4636,4657,4659,4664,4668,4677,4685,4695,4696,4705
Seq#:8; N Pos. 4708,4711,4712,4713,4715,4716,4731,4732,4738,4740,4741,4743
Seq#:8; N Pos. 4746,4759,4766,4773,4780,4781,4782,4784,4790,4791,4792,4795
Seq#:8; N Pos. 4802,4803,4810,4813,4820,4822,4830,4839,4843,4845,4847,4851
Seq#:8; N Pos. 4854,4858,4865,4880,4881,4882,4885,4887,4891,4893,4895,4901
Seq#:8; N Pos. 4906,4927,4931,4933,4937,4942,4945,4949,4951,4952,4954,4958
Seq#:8; N Pos. 4965,4968,4970,4975,4982,4989,4994
Seq#:8; Xaa Pos. 109
Seq#:10; Xaa Pos. 11

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/804,219

DATE: 08/06/2004 TIME: 10:56:28

Input Set : A:\58187109.app

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L:529 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:6
L:1158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:2484
L:1285 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4349
L:1287 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4409
L:1289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4469
L:1291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4529
L:1293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4589
L:1295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4649
L:1297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4709
L:1299 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4769
L:1301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4829
L:1303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4889
L:1305 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4949
L:1348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4949
L:1348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:4949
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